We are developing mutually transparent antennas. Multiple array antennas can be mounted in the same radome and “look through” each other to perform satellite communication.

**Highlights:**
- We designed FSS-based array antennas
- We designed transmission line networks that are electromagnetically transparent
- We built a 3-antenna prototype and tested it in the ESL compact range
- Based on the excellent performance, the Navy is considering it for the next generation ships.

Three mutually independent arrays under test in the ESL compact range.
We are developing antennas that are completely software defined. We create the antenna out of computer controlled pixels and can create any frequency, polarization and gain pattern needed!

**Highlights:**
- We define very small pixels that can be turned on and off
- We create microstrip transmission lines
- We create patch antenna arrays
- We define matching networks
- The process yields software defined antennas of any desirable frequency polarization and gain!
- Parameters can be changed in less than 1 ms.